

**What is Claimed is:**

1. An automatic configuration tool for use with power protection and restoration devices,

comprising:

a processor;

a memory for storing a plurality of databases;

a graphical user interface; and

an automatic configuration application operating on the processor to provide a plurality of menus to a user on the graphical user interface to enable the user to select a plurality of options that are processed to determine and export a plurality of configuration settings for a specific power protection and restoration device.

2. The automatic configuration tool of claim 1 wherein the automatic configuration application comprises a plurality of settings modules, a calculation engine and a power protection and restoration device settings file.

3. The automatic configuration tool of claim 2 wherein the plurality of settings modules comprises a general application module for enabling the use to select an application type for a power system installation.

4. The automatic configuration tool of claim 3 wherein the application type is selected for a power distribution installation.

5. The automatic configuration tool of claim 3 wherein the application type is selected for a power transmission installation.
6. The automatic configuration tool of claim 4 wherein the application type that the user can select for the distribution system installation is new or retrofit.
7. The automatic configuration tool of claim 2 wherein the plurality of settings modules comprises a configuration settings module that enables the user to select tripping preference and other parameters for the specific power protection and restoration device.
8. The automatic configuration tool of claim 7 wherein the tripping preference selection includes either single-phase or three-phase.
9. The automatic configuration tool of claim 2 wherein the plurality of settings modules comprises a protection settings module that enables the user to select at least one a protection philosophy preference, a zone sequence coordination preference and a protection curve.
10. The automatic configuration tool of claim 9 wherein the protection philosophy preference selection includes either fuse saving or fuse clearing.

11. The automatic configuration tool of claim 2 wherein the plurality of settings modules further comprises a communications settings module that enables the user to select a communications medium for the specific power protection and restoration device.
12. The automatic configuration tool of claim 2 wherein the plurality of settings modules further comprises a monitoring settings module that enables the user to select a data recording frequency for at least one of a load profile and a demand metering.
13. The automatic configuration tool of claim 12 wherein the monitoring settings modules enables the user to select a power quality monitoring preference.
14. The automatic configuration tool of claim 2 wherein the plurality of settings modules further comprises a programmable input/output settings module that enables the user to configure a plurality of programmable functions for the specific power protection and restoration device.
15. The automatic configuration tool of claim 14 wherein the plurality of programmable functions includes at least one of hot line tagging, a blown fuse indication, an overvoltage trip and reclose, and a cold load pickup.
16. The automatic configuration tool of claim 2 wherein the plurality of settings modules further comprises an oscillographic settings module that enables the user to select an

oscillographic recording preference for the specific power protection and restoration device.

17. The automatic configuration tool of claim 16 wherein the oscillographic settings module enables the user to select a triggering function for enabling waveform capture of fault and disturbance data for the specific power protection and restoration device.
18. The automatic configuration tool of claim 2 wherein the calculation engine includes at least one of a protection coordination engine, a coordination simulator engine and a programmable input/output mapping engine.
19. The automatic configuration tool of claim 18 wherein the protection coordination engine determines an overcurrent protection curve and settings to be programmed into the specific power protection and restoration device.
20. The automatic configuration tool of claim 18 wherein the coordination simulator engine determines a sequence of events that would occur with a plurality of protection settings for a specific fault current.
21. The automatic configuration tool of claim 18 wherein the programmable input/output mapping engine enables the user to configure programmable logic in the specific power protection and restoration device for a plurality of functions.

22. The automatic configuration tool of claim 1 wherein the plurality of databases includes at least one of a protection philosophy database, a settings information database, a device characteristics database and a previously-entered selections database.
23. The automatic configuration tool of claim 2 wherein the automatic configuration application stores the plurality of determined configuration settings in the power protection and restoration device settings file.
24. The automatic configuration tool of claim 23 wherein the power protection and restoration device settings file is a web-based file.
25. The automatic configuration tool of claim 23 wherein the power protection and restoration device settings file is a XML file.
26. A method for automatically configuring a power protection and restoration device comprising the steps of:
  - generating a plurality of databases to store protection, control and monitoring information for power protection and restoration devices;
  - selecting a plurality of presented options interactively using a graphical user interface;
  - processing the selected plurality of options using a calculation engine to determine a plurality of protection, control and monitoring settings;
  - creating a protection, control and monitoring settings output file; and

automatically downloading the protection, control and monitoring settings output file to an intelligent electronic device for the power protection and restoration device.

27. The method for automatically configuring of claim 26 wherein the plurality of databases includes at least one of a settings information database, a device characteristics database, a protection philosophy database, and a previously-entered selections database.
28. The method for automatically configuring of claim 26 wherein the plurality of presented options includes at least one of configuration settings, protection settings, communication settings and monitoring settings.
29. The method for automatically configuring of claim 28 wherein the plurality of presented options further includes at least one of programmable input/output settings and oscillographic settings.
30. The method for automatically configuring of claim 28 wherein the configuration settings option enables a user to select a tripping preference and other configuration parameters for the power protection and restoration device.
31. The method for automatically configuring of claim 28 wherein the protection settings option enables a user to select at least one of a protection philosophy, a zone sequence

coordination preference and a protection curve for the power protection and restoration device.

32. The method for automatically configuring of claim 28 wherein the communication settings option enable a user to select a communications medium for the power protection and restoration device.
33. The method for automatically configuring of claim 28 wherein the monitoring settings option enables a user to select a data recording frequency for at least one of a load profile and a demand metering.
34. The method for automatically configuring of claim 28 wherein the monitoring settings option enables a user to select a power quality monitoring preference.
35. The method for automatically configuring of claim 29 wherein the programmable input/output settings option enables a user to configure a plurality of programmable functions for the power protection and restoration device.
36. The method for automatically configuring of claim 29 wherein the oscillographic setting option enables a user to select an oscillographic recording preference for the power protection and restoration device.

37. The method for automatically configuring of claim 26 wherein the calculation engine determines an overcurrent protection curve and protection settings for the power protection and restoration device.
38. The method for automatically configuring of claim 26 wherein the calculation engine determines a sequence of events that would occur for a plurality of protection settings for a specific fault current.
39. The method for automatically configuring of claim 26 wherein the calculation engine performs mapping operations that enables a user to configure programmable logic for a plurality of functions for the power protection and restoration device.
40. A computer readable medium encoded with computer-executable instructions to perform the steps of:
  - storing protection, control and monitoring information for power protection and restoration devices in a plurality of databases;
  - enabling a user to select a plurality of presented options interactively using a graphical user interface;
  - processing the selected plurality of options to determine a plurality of protection, control and monitoring settings;
  - creating a protection, control and monitoring settings output file; and



automatically downloading the protection, control and monitoring settings output file to an intelligent electronic device for the power protection and restoration device.

41. The computer readable medium of claim 40 wherein the plurality of presented options includes at least one of configuration settings, protection settings, communication settings and monitoring settings.
42. The computer readable medium of claim 40 wherein the plurality of presented options includes at least one of programmable input/output settings and oscillographic settings.